

6K6-GT

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POWER PENTODE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:
- Voltage . . . . 6.3 . . . . . . ac or dc volts
- Current . . . . 0.4 . . . . amp

Direct Interelectrode Capacitances (Approx.):° ←

Grid No.1 to plate	0.5	μμf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	5.5	μμf
Plate to cathode & grid No.3, grid No.2, and heater	6	μμf

Mechanical:

Mounting Position	Any
Maximum Overall Length	3-5/16"
Maximum Seated Length	2-3/4"
Maximum Diameter	1-9/32"
Dimensional Outline	*See General Section*
Bulb	T-9

Base. . . . . Intermediate-Shell Octal 7-Pin (JETEC No.B7-7), Short Intermediate-Shell Octal 7-Pin with External Barriers (JETEC No.B7-59), Intermediate-Shell Octal 6-Pin (JETEC No.B6-81), or Short Intermediate-Shell Octal 6-Pin with External Barriers (JETEC No.B6-84) ←

Basing Designation for BOTTOM VIEW . . . . 7S ←

Pin 1♦ - No Connection
Pin 2 - Heater
Pin 3 - Plate
Pin 4 - Grid No.2
Pin 5 - Grid No.1
Pin 7 - Heater
Pin 8 - Cathode, Grid No.3

AF POWER AMPLIFIER - Class A_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	315 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	285 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value	0 max.	volts
GRID-No.2 INPUT	2.8 max.	watts
PLATE DISSIPATION	8.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE: ←		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200▲ max.	volts

° Without external shield.
♦ Pin 1 as well as pin 6 is omitted on the 6-Pin bases.

▲: See next page. ← Indicates a change.

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Typical Operation and Characteristics:

Plate Voltage	100	250	315	volts
Grid-No.2 Voltage	100	250	250	volts
Grid-No.1 Voltage	-7	-18	-21	volts
Peak AF Grid-No.1 Voltage	7	18	21	volts
Zero-Signal Plate Current	9	32	25.5	ma
Max.-Signal Plate Current	9.5	33	28	ma
Zero-Signal Grid-No.2 Current	1.6	5.5	4	ma
Max.-Signal Grid-No.2 Current	3	10	9	ma
Plate Resistance (Approx.)	104000	90000	110000	ohms
Transconductance	1500	2300	2100	μmhos
Load Resistance	12000	7600	9000	ohms
Total Harmonic Distortion	11	11	15	%
Max.-Signal Power Output	0.35	3.4	4.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

PUSH-PULL AF POWER AMPLIFIER - Class A_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	315 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	285 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value	0 max.	volts
GRID-No.2 INPUT	2.8 max.	watts
PLATE DISSIPATION	8.5 max.	watts
→ PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	200 max.	volts
Heater positive with respect to cathode.	200▲ max.	volts

Typical Operation:

Values are for 2 tubes

	Fixed Bias	*Cathode Bias*	
Plate Voltage	285	285	volts
Grid-No.2 Voltage	285	285	volts
Grid-No.1 Voltage	-25.5	-	volts
Cathode Resistor	-	400	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage	51	51	volts
Zero-Signal Plate Current	55	55	ma
Max.-Signal Plate Current	72	61	ma
Zero-Signal Grid-No.2 Current	9	9	ma
Max.-Signal Grid-No.2 Current	17	13	ma

▲: See next page.

→ Indicates a change.

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	Fixed Bias	*Cathode Bias*	
Effective Load Resistance (Plate to plate)	12000	12000	ohms
Total Harmonic Distortion	6	4	%
Max.-Signal Power Output	10.5	9.8	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

AF POWER AMPLIFIER - Class A_1

Triode Connection - Grid No.2 Connected to Plate

Characteristics:

Plate Voltage	250	volts
Grid-No.1 Voltage	-18	volts
Amplification Factor	6.8	
Plate Resistance (Approx.)	2500	ohms
Transconductance	2700	μmhos
Plate Current	37.5	ma
Grid-No.1 Voltage (Approx.) for plate current of 0.5 ma	-48	volts

VERTICAL DEFLECTION AMPLIFIER

Triode Connection - Grid No.2 Connected to Plate

Maximum Ratings, *Design-Center Values Except as Noted:*

For operation in a 525-line, 30-frame system□

DC PLATE VOLTAGE	315 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE (Absolute maximum)#	1200■max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 VOLTAGE	-250 max.	volts
CATHODE CURRENT:		
Peak	75 max.	ma
Average	25 max.	ma
PLATE DISSIPATION	7 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200▲max.	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For cathode-bias operation	2.2 max.	megohms

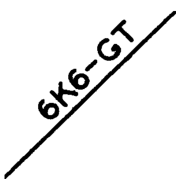
▲ The dc component must not exceed 100 volts.

□ As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

\# This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 percent of one vertical scanning cycle is 2.5 milliseconds.

■ Under no circumstances should this absolute value be exceeded.

← Indicates a change.





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AVERAGE CHARACTERISTICS

E_f = 6.3 VOLTS

GRID-№1 VOLTS (E_{c1}) = 0, -5, -10, -13, -16, -22, -28, -34, -40

E_{c1} = 0, -5, -10, -15, -20, -25, -30, -40

I_{c2}

PLATE AND GRID-№ 2 VOLTS: 0, 50, 100, 150, 200, 250, 300, 350, 400

PLATE (I_b) OR GRID-№ 2 (I_{c2}) MILLIAMPERES: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90

TUBE DIVISION — 92CM-5209R2

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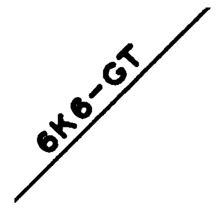


6K6-GT

6K6-GT
AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

AUG. 18, 1941 | TUBE DEPARTMENT | 92CM-6313

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RCA

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OPERATION CHARACTERISTICS
PENTODE CONNECTION

TYPE 6K6-GT
E_f = 6.3 VOLTS

LOAD RESISTANCE (R_L) OHMS: 5000, 10000, 15000

POWER OUTPUT-WATTS: 1.0, 2.0, 3.0

PLATE (I_b) OR GRID-No 2 (I_{C2}) MILLIAMPERES GRID-No 1 BIAS VOLTS (E_{C1}): 10, 20, 30, 40

R_L, I_b, POWER OUTPUT, E_{C1}, I_{C2}

PLATE & GRID-No 2 VOLTS: 100, 140, 180, 220, 260

92CM-5210T2

OPERATION CHARACTERISTICS
PENTODE CONNECTION

TYPE 6K6-GT
E_f = 6.3 VOLTS
PLATE VOLTS = 250
GRID-No 2 VOLTS = 250
GRID-No 1 VOLTS = -18
SIGNAL VOLTS (RMS) = 12.7

POWER OUTPUT-WATTS: 1, 2, 3, 4

TOTAL HARMONIC DISTORTION-PER CENT: 5, 10, 15, 20, 25

POWER OUTPUT, TOTAL DISTORTION

LOAD RESISTANCE-OHMS: 0, 4000, 8000, 12000

92CM-6317T1

6K6-GT



6K6-GT

AVERAGE PLATE CHARACTERISTICS

PENTODE CONNECTION

Ef = 6.3 VOLTS
GRID-Nº 2 VOLTS = 250

GRID-Nº1 VOLTS E_{c1} = -15

E_{c1} = -30

-25

-30

-20

E_{c1} = 0

-10

E_{c1} = -40

-5

I_{c2}

I_b

PLATE VOLTS

0 100 200 300 400 500

80 70 60 50 40 30 20 10 0

PLATE (I_b) OR GRID-Nº2 (I_{c2}) MILLIAMPERES

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6K6-GT •



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AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION

Ef = 6.3 VOLTS   GRID-№2 VOLTS = 250

GRID-№1 (IC1) MILLIAMPERES: 75, 50, 25, 0

GRID-№1 VOLTS EC1 = 0, +5, +10, +15, +20, +25, +30, +40, −5, −10, −15, −20, −25, −30, −35

PLATE VOLTS: 0, 100, 200, 300, 400, 500

PLATE (Ib) OR GRID-№2 (IC2) MILLIAMPERES: 400, 350, 300, 250, 200, 150, 100, 50, 0

FEB.13,1948   TUBE DEPARTMENT   92CM-6311R1

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